



Research Article

# Evaluation of Green Finance and Its Types of Instruments, Including Green Bonds, Green Loans and Green Equity: A Conceptual Review Paper

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## ABSTRACT

Green finance is becoming an important tool to foster sustainable development and to combat climate change. This conceptual review paper intends to introduce the green finance as a framework and to analyze its main financial instruments: the green bond, the green loan, and the green equity. This paper is based on systematic literature published in academic journals, universities and global and regional finance organizations in the period of 2016 to 2026, to present the literature's main ideas to identify its trends, and to evaluate the green financial tools' role in promoting the green investment.

In terms of preferences, green bonds remain the most common green finance instrument, as their structure is already well-known and established with investors. Green loans are also gaining traction via flexible financing arrangements tied to environmental performance criteria. Other fundraising methods like green equity and venture capital are less studied, but also potential sources for funding innovation and longer-term sustainability. Other challenges include lack of standardization, lack of awareness and uneven market growth rates in countries like India. Ultimately, it also lists recommendations for regulatory support, transparency and additional work at the instrument level.

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**KEYWORDS:** Green finance; Green bonds; Green loans; Sustainability; Green equity.

## 1. INTRODUCTION

The global economy is currently facing a significant transformation resulted by the urgent need for finding out solution to address climate change, environmental degradation, and the depletion of natural resources in globe. Earlier models of economic growth, which had produces largely carbon-intensive activities, are continuously being questioned due to their negative environmental and social outcomes. In this way, green finance has come out as a critical solution of sustainable development, which aiming to combine environmental considerations into financial activity. It includes a wide range of green financial instruments, policies, and institutional structure which have designed to encourage environmentally sustainable investments, low-carbon technologies, and supports the transition into a more sustainable resilient and inclusive green economy. International frameworks such as the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement had additionally accelerated the acceptance of green finance by motivating countries to integrating their financial systems into sustainable objectives.

The swelling the relevance of green finance is also resulted from the increasing participation of governments, financial institutions, and private investors in investing environmentally-sustainable responsible projects. Over the past few year, there has been a remarkable expansion had been shown in green markets, encouraged by regulatory initiatives frameworks, policy incentives, and rising awareness among various stakeholders towards environmental, social, and governance (ESG) factors. Developing economies are witnessing towards gradual advancement in adopting green finance initiatives, despite this challenges which are related to regulatory frameworks, market maturity and access to green finance continue to prevail in world to effectively reconcile the gap between environmental goals and economic growth, there is requirement of mobilization of large-scale investment funds from economic activities towards climate mitigation and adaptation.

Within this context, financial instruments like green bonds, green loans, and green equity have risen to prominence as important instruments in directing investment to sustainable causes. Among these, green bonds have risen to become one of the fastest-growing sectors in the global debt markets, offering structured and transparent channels to raise funds to support environmentally positive projects. Similarly, green loans have shown promise by offering flexibility in investment and often being linked to sustainability performance indicators, thus encouraging borrowers to pursue environmentally friendly business practices. In addition, green equity and venture capital have been instrumental in driving innovation, technological advancement, and the development of environmentally sustainable businesses, particularly in emerging sectors like renewable energy, electric mobility, and circular economy business models. However, challenges like lack of standardization, greenwashing, lack of awareness, and the unbalanced global distribution of green investments have

proved to be important barriers to the successful implementation of green finance.

In light of these developments, it is of critical importance to examine and analyze the concept of green finance instruments to understand their ever-increasing significance. With this premise in mind, the present study is focused on carrying out a comprehensive conceptual review of the concept of green finance and its most prominent instruments, namely green bonds, green loans, and green equity shares, through the analysis of existing literature to understand the trends and gaps in research. The paper is focused on contributing to the ever-expanding academic discourse through a structured understanding of green finance instruments to achieve sustainable economic development at the global and national levels.

## DEFINITION OF GREEN FINANCE:

References	Definition
(GREEN FINANCE PROGRESS REPORT 2016, 2017)	Green finance includes financial flows from public, private, and nonprofit organization sectors toward sustainable development focused, specially climate change related mitigation and adaptation.
(International Financial Corporation, 2020)	green finance as financial instruments and investments that support environmentally sustainable economic activities, including renewable energy, energy efficiency, and low-carbon infrastructure.
(Hong, 2025)	Green finance is refers to financial activities where financial organization integrate environmental factors like climate change response, environmental protection and resource efficiency into their decision-making process, product design, and risk management processes. It aims to tends social capital toward green projects and industries, encouraging sustainable economic.

## 2. METHODOLOGY

The researcher reviewed that antecedent strand of literature on the research topic of green finance, its overview and its types such as green bonds, green loans and green equity for identifying conceptual area of earlier studies. For this purpose researcher were used previous research from google scholar, symentic scholar and research gate etc.

### Time period:

This study uses various sources from various organizational report, journal and publisher at the time interval of 10 year starting from 2016 to 2016.

### Scope for future relevancy:

Moreover researcher had only review the research which are related to green finance and its tools such as green bonds, green loans and green equity. Beside it wider scope is available for the new research study to new researcher and they can focus on particular area. Here researcher were used India and also at global level research.

### 3. OBJECTIVES

- To examine the concept of green finance and evolution cycle of it as an elevate tool for promoting sustainable economic growth and environmental protection.
- To analyze the concept of the major types of green finance tools, specifically green bonds, green loans, and green equity, for the base of its structure, features, and functioning.
- To review existing literature available for green finance and its instruments to understand its current trends, empirical findings and theoretical developments.
- To finding out research gaps in the existing available literature related to green finance and also for suggest areas to future research.
- To analyze the significance of green finance at the Indian and global context, in order to recent developments and policy initiatives.

### 4. LITERATURE REVIEW

#### Green Finance:

Green finance has terms as a key tool for mobilizing funds towards environmentally sustainable and resilient infrastructure, in which green bonds play an important role. Their study uses a policy oriented assessment and systematic review to examine the playing role of green bonds as a part of green finance in sustainable infrastructure development. They also explain the concept in wider area and various scope of green finance. Their study analyses major types of green bond including corporate, municipal and sovereign bonds for upcoming project which limited to the green finance framework. With the use of secondary data from regulatory documents, global reports and academic literature, make a light on evidence on present trends of green bonds, sectoral allocation of green funds and development of institutional infrastructure for India's green bond market. At overall, their study contributes to the existing literature by showing an India-focused component of green finance instruments and its role in sustainable infrastructure development, with suggestion for regulators, policymakers, and market participants. (Mehrotra & Gupta, 2026)

Their study bestows the existing literature with the help various resilient techniques (e.g. the system-GMM method) to measuring green finance. With this objective, the researcher considered panel data from the period of 1985 to 2021. The result of their study supports the hypothesis: while green funding had a positive effect on sustainable development of country, then environmental degradation has totally the opposite effect, that means that if amount of green finance had been increased then the environmental harmness had been decreased. These results had been supported by a various range of statistical methods such as system-Generalized Method Moments technique. Their research shows the wider contribution amount of bound is to be made as a part of green resources for legislative infrastructure to encourage the effort of decreasing the negative impact of environmental degradation while building a sustainable development path. (Xing, Chang, & Aldawsari, 2024)

The researcher explains in his research on sustainable financing that green finance encompasses types of financial products and various policy measures which encourage environmentally sustainable investments with reducing carbon-intensive activities. Their study explains the requirement why greening the financial system is needed and also discuss the role financial governance. Their study shows the present state of green investment in Asia and also provide resulted details for governance initiatives for green finance across Asia. They were suggests priority areas to policy maker, to overcome barriers and make light on green market innovation. (Volt, 2018)

#### An instrument for Green Finance:

Green finance includes a wide range of financial instruments, that designed to transfer capital fund for environmentally sustainable projects with achieving capital gain. Its basic instruments are 1)green bonds, which raise capital funds totally for environmental and climate related projects;2) green loans, in which lending is made for engaging to specific environmental performance or the amount of loans is used for some specific proceeds;3) green equity and venture capital, in which finance is made by issuing shares for clean energy and sustainable enterprises purpose;4) green asset-backed securities, backed by cash pools such as solar company provide loan for purchasing rooftop, its basic focus is on renewable energy or solar energy or energy-efficiency assets;5) carbon market instruments or carbon credit such as emissions trading systems which generate index carbon credits for company or country that is saleable in carbon market ;and 6) other green insurance products which manage predictable climate-related risks. Here are detail review of each instrument,

#### 1) Green Bonds:

Green bonds are considered as debt instruments which is designed to fund projects with specific environmental benefits. Why green bonds are best investment opportunity for its investors are,

- It is fixed regular income investment and funds exclusively used for environmentally beneficial projects.
- It is a part of company's Environmental, Social and Governance (ESG) framework.
- It also offers tax incentives or tax-free return income for attracting more investors for funding more green projects.

Various green bonds exist in present bond market. Each of this is differ based on its structure, terms of issuer and risk allocation.

#### ➤ Use-of-Proceeds Green Bonds

Here investment is used exclusively for priority theme green projects e.g., renewable power or clean transport. Repayment of such investment is come from the issuer's(company's) overall balance sheet amount. Use of proceeds green bonds follow "the International Capital Market Association Green Bond Principles". Such company generally follow transactions to capitalize for surging the interest of its stakeholders and also use for companies goodwill benefits. Special eligibility for

transparency reporting is consider while applying industry guidelines for particular transaction, in spite of more variation in thematic emphasized. Implementation of such transaction varies lesser with thematic emphasis or more its depend on the type of finance. (Franklin, 2025)

#### ➤ **Green Revenue Bonds**

In this type of green bonds debt is repaid to investors from revenue generated from particular green project in the form of interest at earlier fixed rate in stead of paying from company's general funds. In other words this fund may used for finance or refinance the various green project but its collateral or repayment is made from flow of revenue collected by the company like fees or taxes. Municipalities and state frequently chose this type of bonds when rising new funds by issuing green revenue bonds. (Segal, 2025)

#### ➤ **Green Project Bonds**

Green project bonds issued for specifically to funding only single green project, were investors are directly made aware about risks and returns associated with this single project. Its amount is repaid based on the performance of underlying green assets such as energy efficient infrastructure, clean transport system and renewable energy plants. (ICMA, 2021)

#### ➤ **Green Securitized Bonds (Green ABS)**

Green securitized bonds combine the environmental object with financial structure of securitization by merging "green asset as collateral". Bond are Backed by a polling of green assets such as solar leases, energy-efficient mortgages, or electric vehicle loan, solar leases or energy efficient mortgages assets. As the result of security, backed green assets are sold to those investors who are looking for financial returns as well as positive environmental results. The cash flow which generated by this underlying or mortgage assets are utilized to repay the principal amount with the interest as like traditional securitizations. The difference is only that it was fully apply for environmental purpose. (Green Bond Securitization, 2025)

#### ➤ **Sovereign Green Bonds**

It is also known as green sovereign debt which Issued by national governments to fund environmental projects e.g., India's sovereign green bonds issued by the Government of India in 2023. The fund of this bonds is totally used for green initiatives such as waste management, renewable energy project and green agriculture. Specially this type of bonds had promoted by national government to raise capital along with achieving environmental targets. In India sovereign green bonds was first time issued amount of Rs.8000 crore by Indian government and remaining Rs.8000 crore was issued in 2023. This bonds are more safer compare to other bonds because it was issued by national government. (Dash, Singh, & Nath, 2025)

#### ➤ **Municipal Green Bonds**

Municipal green bonds was issued by local authorities or municipalities to provide fund to environmental activities such as water management, develop a tertiary sewage treatment plants or waste treatment. Ghaziabad municipal corporation issued Indias first certified green municipal bond in April 2021 and remaining amount is received by again issuing municipal green bonds worth Rs.150 crore. This bonds are issued in the form of auction by Ghaziabad Nagar Nigam to fund a Tertiary Sewage Treatment Plant (TSTP) in Indirapuram at coupon rate of 8.10% under the Swachh Bharat Mission–Urban framework. (ESGNEWS Team, 2025)

#### ➤ **Corporate Green Bonds**

Corporate green bonds was issued by companies to finance sustainability projects within their operations or value chain. This type of bonds become more suitable to those industry where environment is material in the cost of profit motive in its operation. With the help of corporate green bonds a company can create a positive impact in the mind of its stakeholders because its operation are closely related to environmental benefits. (Flammer, 2021)

## 2. **Green loans:**

A green loan is one of the another instrument of green finance designed to finance projects that deliver environmental benefits, such as energy efficiency, renewable energy, sustainable water management, climate change adaptation and pollution prevention. Green loans are classified based on structure, borrowers profile and its purpose. The most common types of green loans are term green loans, green revolving credit facilities, project specific green loans, syndicated green loans, green mortgage loans, green auto loans, green home improvement loans and sustainability linked loans (SLLs).

Green loans are a better way for new market to get financial support to green projects. For becoming such eligible, business need to demonstrate that loans must fulfill four principles of green loans such as use of fund must be for environmental benefits, project evaluation must be done at time to time and aspected risk must be discuss with its effected party, management of such fund must be done in proper manner and allocation of fund is done for specific purpose and last but not least proper reporting must be done. (What are Green Loans and what are they used for?, 2024) What are the advantages of green loans:

- To set better financial condition on the behalf of borrower/business.
- To improve public image in the society with the use of fund as environmental benefits
- By taking green loans company can get tax incentives.
- If company use fund in proper manner for environmental purpose, so it can create positive environment impact.
- By using green loan company can reduces its operational cost if company became able to utilize full capacity of such funds and resources.

By examining the impact of implementation of green loan policy on transforming of heavy carbon polluters for mergers and acquisition, green loan had proven as beneficial toward of it. The result of researcher's study suggest that green loans allow better incentives to heavy polluters for generating lower carbon pollution with lower assets specific risk and vice a versa. Their study made contribution into the discussion of green loans and suggest some transformation for heavy polluters with green loan policy implication for raising market. (Xu, Ma, Guo, & Li, 2023)

### 3. Green Equity and Venture capital:

Green equity and venture capital are the funds used to divert capital from financial resources toward environmentally sustainable businesses, projects and technologies, which focuses on addressing climate change, net-zero carbon emission and developing a low-carbon economy. Green equity basically considered as long-term ownership stocks in companies which engaged in renewable energy, sustainable agriculture, clean technology and resource-efficient industries.

On the other side, green venture capital is considered as early-stage financing option of innovative startups which approaches environmentally friendly solutions, such as electric mobility, circular economy models and carbon capture. It is also a long term capital ownership stock.

"Green equity refers to equity investment funding where funds are utilized to finance or refinance activities that improve environmental conditions country." (Tebrake, Barahona , & Giron, 2023)

Empirical research further shows that green equity investors can enhance firm's environmental performance and provide assistance to green innovation through active ownership and governance mechanisms. (Xu, Lu, Zhang, & Shu, 2025)

Thus, both green equity and venture capital serve as vital financial tools that not only generate economic returns but also accelerate sustainable development and technological advancement.

### RESEARCH GAP

Despite the growing recognition of green finance, as observed in the recent past, there are a number of important research gaps as revealed by the existing literature. The majority of the research done previously has been focused more on individual green financial instruments, especially green bonds, while there has been limited research done regarding a comprehensive analysis of green bonds, green loans, and green equity as a whole. In addition, a major part of the research done has focused more on the economies of developed countries, while the economies of developing countries, including India, have not been explored as well as they should have been. Although the earlier research has revealed the importance of green finance in terms of sustainable development, there has been limited research done regarding the specific characteristics of green financial instruments, including their risks and returns. In addition to this, the concept of green equity and venture capital financing appears to be relatively less emphasized

within academic literature, while it plays an important role in promoting innovative entrepreneurship as well as environment-friendly startups. Moreover, there are a number of inconsistencies arising due to the absence of standardized definitions, reporting formats, and measurement techniques. In this regard, there seems to be less emphasis on developing an integrated concept that links various green financial instruments with policy mechanisms to sustainability. Thus, this study attempts to fill this gap by presenting a conceptual and comparative review of various green finance instruments, with specific reference to their structure, functioning, and significance at the global as well as Indian levels.

### 5. CONCLUSION

Green finance has been recognized as a vital tool in channeling finance towards environmentally sustainable and climate-resilient development. The current review has emphasized the importance of green finance instruments, including green bonds, green loans, and green equity, in channeling finance towards green projects, especially in the areas of renewable energy, sustainable infrastructure, and clean technologies. Green bonds, in particular, have gained widespread acceptance due to their structured approach, as well as the growing confidence of investors, whereas green loans provide flexibility and performance-based rewards. Green equity and venture capital finance, on the other hand, contribute significantly towards sustainability, especially in the areas of innovation, technology, and environmentally conscious business practices. The findings of this study indicate that although green finance is beneficial for sustainable development and environmental protection, it is still important to have regulatory support, transparency, standardized reporting, and the involvement of stakeholders for the development of green finance. In the case of India, recent developments in green finance indicate that the country is making progress in terms of sovereign and municipal green bonds; however, the market is still in a developing stage. In conclusion, green finance is not only beneficial for generating financial returns for investors but is also beneficial for environmental and social development; therefore, it is considered to be an important component of sustainable development. Future research should be conducted to analyze the performance of green finance instruments to make it more effective at the national and global levels. In conclusion, green finance not only generates financial returns but also supports environmental and social objectives, making it an essential component of sustainable economic growth. Future research should focus on empirical analysis, policy integration, and performance evaluation of individual instruments to enhance the effectiveness and scalability of green finance at both national and global levels.

### REFERENCES

1. Dash S, Singh H, Nath BR. Financing India's green transition: the emergence of sovereign green bonds as a strategic lever in India's sustainable finance agenda for

- Viksit Bharat@2047. *Eur Econ Lett.* 2025 Jul 12. doi:10.52783/eel.v15i3.3426
2. ESGNEWS Team. Ghaziabad issues 1st ever bonds for wastewater treatment [Internet]. 2025 May 2 . Available from: <https://www.esgnews.earth/finance/ghaziabad-issues-waste-water/12877.html>
  3. Flammer C. Corporate green bonds. *J Financ Econ.* 2021 Nov;142(2):499–516. doi:10.1016/j.jfineco.2021.01.010
  4. Franklin A. Use of proceeds format: deep dive into green bonds and similar format transactions. In: Franklin A, editor. *Structuring sustainable finance transactions*. Cham: Palgrave Macmillan; 2025. p. 41–124. doi:10.1007/978-3-031-87631-8\_3
  5. Green bond securitisation. Sustainability Directory; 2025 Nov 21 [cited 2026 Mar 28]. Available from: <https://prism.sustainability-directory.com/term/green-bond-securitization/>
  6. United Nations Environment Programme. *Green Finance Progress Report 2016*. Geneva: UNEP; 2017 . Available from: <http://www.unepinquiry.org>
  7. Hong Z. Risks and prevention methods in green finance. *SHS Web Conf.* 2025;218:03018. doi:10.1051/shsconf/202521803018
  8. International Capital Market Association (ICMA). *Green bond principles: voluntary process guidelines for issuing green bonds*. 2021 Jun. Available from: <https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/Green-Bond-Principles-June-2021-100621.pdf>
  9. International Finance Corporation. Green finance. Washington (DC): IFC; 2020. Available from: <https://www.ifc.org/en/what-we-do/sector-expertise/financial-institutions/climate-finance/green-finance>
  10. Mehrotra A, Gupta M. Green finance and green bonds in sustainable infrastructure development: a conceptual review. *Natl Res J Bank Finance Manag.* 2026 Jan–Jun;13(1):12–25. Available from: <http://www.nrjbfm.in>
  11. Segal T. Understanding green bonds: types, benefits, and buying guide. 2025 Aug 30. Available from: <https://www.investopedia.com/terms/g/green-bond.asp>
  12. Volt U. Fostering green finance for sustainable development in Asia. Tokyo: Asian Development Bank Institute; 2018 Mar. p. 1–30. Available from: <https://www.adb.org/publications/fostering-green-finance-sustainable-development-asia>
  13. What are green loans and what are they used for? . BBVA; 2024 May 17. Available from: <https://www.bbvacib.com/insights/news/what-are-green-loans-what-are-they-used-for/>
  14. Xing L, Chang BH, Aldawsari SH. Green finance mechanisms for sustainable development: evidence from panel data. *Sustainability.* 2024 Nov 8;16(22):9762. doi:10.3390/su16229762
  15. Xu L, Ma C, Guo F, Li B. Green loans and the transformation of heavy polluters: evidence from China. *J*

*Econ Finance.* 2023 May 31. doi:10.1007/s12197-023-09628-9

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